

CLEAN VERSION OF AMENDED CLAIMS AND NEWLY ADDED CLAIMS

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1. An improved method of using a two hand held game controller structured with a housing formed to be held by a user in two hands simultaneously, said housing having a left-hand area and a right-hand area, located in said left-hand area is a depressible pad having four codependant areas, located in said right-hand area is a plurality of single individual depressible buttons; said game controller for controlling a simulated game character by way of depressing a portion of said depressible pad and depressing said single individual depressible buttons; a television displaying said simulated game character;
wherein the improved method comprises the steps:
depressing said portion of said depressible pad for at least in part controlling said simulated game character;
depressing a first one of said single individual depressible buttons with varying pressure for at least in part varying action intensity of said simulated game character;
depressing a second one of said single individual depressible buttons with varying pressure for at least in part varying action intensity of said simulated game character.

2. An improved method of using a two hand held game controller according to claim 1 wherein the action intensity is at least represented by movement speed of said game character, wherein said game character moves at a first speed with a first depressive pressure, said game character moves at a second speed with a second depressive pressure, said second depressive pressure is greater than said first depressive pressure, and said second speed is different from said first speed.

3. An improved method of using a two hand held game controller according to claim 1 wherein the action intensity is at least represented by jumping height of said game character, wherein a first depressive pressure causes said character to jump

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a first height, and a second depressive pressure causes said character to jump a second height.

4. An improved method of using a two hand held game controller according to claim 1 wherein said game character is a simulated car, said car is slowed proportionally to increasing depressive pressure.

5. An improved method of using a two hand held game controller according to claim 1 wherein said game character is a simulated gun, said varying pressure for varying fire rate of said gun.

6. An improved method of using a two hand held game controller structured with a housing formed to be held by a user in two hands simultaneously, said housing having a left-hand area and a right-hand area, located in said right-hand area is a plurality of single individual depressible buttons; said game controller for controlling a simulated game character by way of depressing said single individual depressible buttons;

wherein the improved method comprises the steps:

depressing a first one of said single individual depressible buttons with varying degrees of pressure for at least in part varying action intensity of said simulated game character;

depressing a second one of said single individual depressible buttons with varying degrees of pressure for at least in part varying action intensity of said simulated game character.

7. An improved method of using a two hand held game controller according to claim 6 wherein the action intensity is at least represented by jumping height of said game character, wherein a first depressive pressure causes said character to jump a first height, and a second depressive pressure causes said character to jump a second height.

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8. An improved method of using a two hand held game controller according to claim 7 wherein said housing further supports in said left-hand area a depressible pad having four codependant areas, and

wherein the improved method comprises the step:

depressing a portion of said depressible pad for at least in part controlling said simulated game character.

9. An improved method of using a two hand held game controller according to claim 6 wherein said game character is a simulated car, said car is slowed proportionally to increasing depressive pressure.

10. An improved method of using a two hand held game controller according to claim 9 wherein said housing further supports in said left-hand area a depressible pad having four codependant areas, and

wherein the improved method comprises the step:

depressing a portion of said depressible pad for at least in part steering said car.

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11. A game control comprising:

a housing to be grasped and held simultaneously by two hands of a human user during use, said housing including a right-hand area and a left-hand area, said right-hand area being an area for grasping by the user's right hand, said left-hand area being an area for grasping by the user's left hand;

a plurality of depressible electricity manipulating devices each at least in-part exposed on said housing, at least some of said plurality of electricity manipulating devices positioned on said housing to be within reach of the user's right-hand thumb;

at least one of said electricity manipulating devices is a pressure-sensitive variable-conductance sensor operable by a depressible individual button located within said right-hand area

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and reachable by the user's right-hand thumb, said variable-conductance sensor including means for creating an analog electrical signal representing varying applied physical pressure; at least one of said electricity manipulating devices including means for creating an On/Off signal; each of said electricity manipulating devices electrically connected to electronics means for at least reading the signals of said electricity manipulating devices.

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12. A game control according to claim 11 wherein said electronics means further for reading said at least one of said electricity manipulating devices including means for creating an On/Off signal, exclusively as an On/Off switch.

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13. A game control according to claim 11 wherein the signals represent operation of said variable-conductance sensor.

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14. A game control according to claim 11 wherein said electronics means includes an ASIC, and said pressure-sensitive variable-conductance sensor further includes a resilient dome cap carrying a conductive material on an underside of said dome-cap, said conductive material having a deformable shaped surface, wherein with a first level of applied pressure to said button said deformable shaped surface establishes a first electrical contact area, with a second level of applied pressure to said button said deformable shaped surface establishes a second electrical contact area, said second electrical contact area is larger than said first electrical contact area and electrical resistance of said sensor is larger with said first level of applied pressure than the electrical resistance of said sensor with said second level of applied pressure.

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15. A game control comprising:
a housing to be grasped and held simultaneously by two hands of a human user during use, said housing including a right-hand

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area and a left-hand area, said right-hand area being an area for grasping by the user's right hand, said left-hand area being an area for grasping by the user's left hand;

a plurality of depressible electricity manipulating devices each at least in-part exposed on said housing;

at least one of said electricity manipulating devices positioned within said right-hand area is a pressure-sensitive variable-conductance sensor actuated by a single independent button, said sensor comprising:

a depressible resilient dome cap positioned over conductive material positioned in proximity to circuit trace means for conducting electricity, said resilient dome cap depressible to electrically contact said conductive material with said circuit trace means, said pressure-sensitive variable-conductance sensor for creating analog output proportional to varying physical pressure applied to said sensor; said sensor electrically connected to

active electronics means for interpreting the analog output of said pressure-sensitive variable-conductance sensor.

66. 16. A pressure-sensitive variable-conductance sensor for a control device, said sensor comprising;

a depressible resilient dome cap having a surface with an apex positioned above

circuit trace means for conducting electricity, said resilient dome cap depressible for creating analog output proportional to varying physical pressure applied to said dome cap; said surface with an apex is flexible, deforming with additional physical pressure to flatten and cause additional surface area contact to provide changes in electrical conductivity in said sensor; said sensor electrically connected to

active electronics means for interpreting the electrical conductivity of said sensor.

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17. A pressure-sensitive variable-conductance sensor for a control device according to claim 16 wherein said sensor is compressible by force applied by a single digit of a human user's hand.

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18. A pressure-sensitive variable-conductance sensor for a control device according to claim 17 wherein said active electronics means at least includes an ASIC, and said electrical conductivity is resistive in nature.

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19. A pressure-sensitive variable-conductance sensor for a control device according to claim 18 wherein said control device is a game control device including a housing to be grasped and held simultaneously by two hands of the human user during use, said housing including a right-hand area and a left-hand area, said right-hand area being an area for at least grasping by the user's right hand, said left-hand area being an area for at least grasping by the user's left hand, said sensor located in said right-hand area to be depressed by the human user's right-hand thumb.

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20. A game control comprising:
a housing to be grasped and held simultaneously by two hands of a human user, said housing including a right-hand area and a left-hand area, said right-hand area being an area for grasping by the user's right hand, said left-hand area being an area for grasping by the user's left hand;

a plurality of compressible electricity manipulating devices each at least in-part exposed on said housing;

at least one of said electricity manipulating devices is a pressure-sensitive variable-conductance sensor located in said right-hand area for being depressed by the user's right-hand digit, said pressure-sensitive variable-conductance sensor including means for creating an On/Off output, and with varied pressure creating an analog output;

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active electronics means for at least interpreting the outputs of said pressure-sensitive variable-conductance sensor.

71. A game control according to claim 70 wherein said electronics means includes an ASIC, and said pressure-sensitive variable-conductance sensor includes flexible material having a substantially convex surface, said material deforming with additional pressure to flatten causing contact of additional surface area to provide conductivity changes of said sensor.

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72. A method of manufacturing a game control, including the steps:

- a) providing a housing shaped to be held simultaneously by two hands of a human user, said housing formed with a right-hand area and a left-hand area;
- b) assembling electronics into said housing;
- c) installing electricity manipulating devices connected to said electronics;
- d) positioning said electricity manipulating devices in-part exposed on said housing to be depressed by digits of the human user's hand;
- e) installing into said right-hand area of said housing at least two single individual button depressible pressure-sensitive variable-conductance analog sensors, said sensors connected to said electronics, said sensors independently depressible by a single digit of a human user's right hand.

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73. A method of manufacturing a game control according to claim 72 further including the step

installing resilient dome caps located to be operational with pressure-sensitive material of said pressure-sensitive variable-conductance analog sensors.

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74. A method of manufacturing a game control according to claim 73 further including the step

installing injection molded rubber dome caps located to be

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operational with said pressure-sensitive variable-conductance analog sensors.

(P) 73
 25. A method of manufacturing a game control according to claim 24 further including the step

installing in said left-hand area of said housing a depressible pad associated with four of said electricity manipulating devices.

(P) 36
 26. A game control according to claim 15 wherein an inner surface of said dome-cap has an apex.

(P) 37
 27. A game control according to claim 26 wherein said dome-cap is flexible and under increasing pressure said apex flattens to contact additional surface area to provide conductivity changes of said sensor.

(P) 38
 28. A game control according to claim 15 wherein said conductive material is carried within said dome-cap, said conductive material is shaped to include an apex.

(P) 39
 29. A game control according to claim 28 wherein said conductive material is flexible and said apex flattens with additional physical pressure causing additional contact area for providing resistance changes of said sensor.

(P) 74
 30. A method of manufacturing a game control according to claim 25 including the step: providing said pressure-sensitive variable-conductance analog sensors with conductive material having a convexed surface, and further, providing said conductive material as flexible material deformable with physical pressure to increase contact area resulting in lowering electrical resistance.

(P) 28
 31. A game control according to claim 11 wherein said

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electronics means is further for reading at least one of said electricity manipulating devices exclusively as an On/Off switch.

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32. A game control according to claim 31 wherein said electronic means also is for outputting to a game console information representing the signals, and the signals represent operation of said pressure-sensitive variable-conductance sensor.

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33. A game control according to claim 32 wherein said electronic means includes an ASIC, and said sensor includes pressure-sensitive variable-conductance material.

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34. A game control according to claim 32 wherein said pressure-sensitive variable-conductance sensor includes conductive trace means for conducting electricity.

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35. A game control according to claim 34 wherein said conductive trace means includes a first circuit trace and a second circuit trace, the traces connected by a conductive material.

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36. A game control according to claim 1 wherein at least two of said electricity manipulating devices are pressure-sensitive variable-conductance sensors operable by two depressible individual buttons located within said right-hand area and reachable by the user's right-hand thumb, and said sensors include pressure-sensitive variable-conductance material.

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37. A game control according to claim 1 wherein at least four of said electricity manipulating devices are pressure-sensitive variable-conductance sensors operable by four depressible individual buttons located within said right-hand area and reachable by the user's right-hand thumb.

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⁴³ 38. A game control according to claim ⁴⁰ ~~20~~ wherein at least two of said electricity manipulating devices are pressure-sensitive variable-conductance sensors operable by two depressible individual buttons located within said right-hand area and reachable by the user's right-hand thumb.

⁴² ⁴¹ 39. A game control according to claim ⁴¹ ~~21~~ wherein at least two of said electricity manipulating devices are pressure-sensitive variable-conductance sensors operable by two depressible individual buttons located within said right-hand area and reachable by the user's right-hand thumb.

³² ³¹ 40. A game control according to claim ³³ ~~23~~ wherein at least four of said electricity manipulating devices are pressure-sensitive variable-conductance sensors operable by four depressible individual buttons located within said right-hand area and reachable by the user's right-hand thumb.

~~41. An improved method for controlling game imagery with a game control, said game control at least in part controlling imagery created by an image generation machine, said game control of the type having a housing designed to be held in two hands simultaneously, said housing having a right-hand area and a left-hand area, located in said right-hand area are depressible single individual buttons, said buttons positioned to be depressed by a user's right hand thumb, depression of said buttons is for controlling said imagery; said improvement comprises the step of:~~

~~providing variable action intensity of said game imagery at least in part controlled by pressure-sensitive variable depression of one of said buttons.~~

¹² ⁴² 42. An improved method for controlling game imagery with a game control according to claim ⁴¹ ~~21~~ wherein said improvement further comprises the step of:

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providing variable action intensity of said game imagery at least in part controlled by pressure-sensitive variable depression of a second one of said buttons,

providing for said buttons to depress pressure-sensitive variable-conductance material.

¹³
~~43~~. An improved method for controlling game imagery with a game control according to claim ¹²~~42~~ wherein said improvement further comprises the step of:

providing variable action intensity of said game imagery at least in part controlled by pressure-sensitive variable depression of a third one of said buttons.

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~~44~~. An improved method for controlling game imagery with a game control according to claim ¹³~~43~~ wherein said improvement further comprises the step of:

providing variable action intensity of said game imagery at least in part controlled by pressure-sensitive variable depression of a fourth one of said buttons.

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~~45~~. An improved method for controlling game imagery with a game control according to claim ¹⁴~~44~~ wherein said improvement further comprises the step of:

providing variable action intensity of said game imagery at least in part controlled by pressure-sensitive variable depression of a fifth one of said buttons.

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~~46~~. An improved method for controlling game imagery with a game control according to claim ¹²~~42~~ further wherein said housing supports in said left-hand area a depressible pad having four codependant areas, and

wherein the improved method comprises the step:

depressing a portion of said depressible pad for at least in part controlling said game imagery.

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17. An improved method for controlling game imagery with a game control according to claim 46, wherein said image generation machine is a game console.

18. An improved method for controlling game imagery with a game control according to claim 17, wherein said game imagery includes a simulated game character.

19. An improved method for controlling game imagery with a game control according to claim 18, wherein said variable depression of one of said buttons causes variable jumping height of said game character.

20. An improved method for controlling game imagery with a game control according to claim 19, wherein said variable depression of one of said buttons causes variable firing rate of said game character.

21. An improved method for controlling game imagery with a game control according to claim 18, wherein said simulated game character is a vehicle and said variable depression of one of said buttons causes variable speed of said vehicle.

22. An improved method for controlling game imagery with a game control according to claim 21, wherein said vehicle is a race car.

53. A game control comprising:

a housing to be grasped and held simultaneously by two hands of a human user during use, said housing including a right-hand area and a left-hand area, said right-hand area being an area for grasping by the user's right hand, said left-hand area being an area for grasping by the user's left hand;

a plurality of depressible electricity manipulating devices each at least in-part exposed on said housing;

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at least one of said electricity manipulating devices positioned within said right-hand area is an analog sensor actuated by variable depression of a single individual button, said analog sensor comprising:

a depressible resilient dome cap, said dome cap positioned over

a sheet, said sheet positioned over a board;

said game control further including

means for reading a signal from said analog sensor;

means for outputting information representing said signal.

54. A game control according to claim 53 wherein said board is a circuit board supporting electrical circuit traces.

55. A game control according to claim 54 wherein said dome cap has a deformable substantially convexed surface having an apex located to contact said sheet.

56. A game control according to claim 55 wherein said sheet is a non-conductive sheet supporting conductive material.

57. A game control according to claim 56 wherein said conductive material is located to contact said circuit traces.

58. A game control according to claim 56 wherein said circuit traces are interdigitated.

59. A game control according to claim 58 wherein said conductive material is pressure-sensitive variable-conductance material, and a four way rocker is located in said left-hand area of said housing.

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60. A game control according to claim 59 wherein said game control at least in part controls an image generation machine, said means for outputting information communicates from said game control to said image generation machine.

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61. A game control according to claim 60 wherein said image generation machine is a game console at least in part for controlling imagery displayed by a television.

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62. A game control according to claim 61 wherein a second analog sensor is positioned within said right-hand area of said housing, said second analog sensor actuated by variable depression of a second single individual button.

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63. A game control according to claim 53 wherein said dome cap supports conductive material.

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64. A game control according to claim 63 wherein said conductive material has a deformable substantially convexed surface having an apex.

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65. A game control according to claim 64 wherein said sheet is a non-conductive sheet supporting conductive material.

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66. A game control according to claim 65 wherein said conductive material is contacting circuit traces.

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67. A game control according to claim 66 wherein said circuit traces comprise a first circuit trace and a second circuit trace, said conductive material contacting between said first circuit trace and said second circuit trace.

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68. A game control according to claim 67 wherein a four way rocker is located in said left-hand area of said housing.

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60 69. A game control according to claim 68 wherein said game control at least in part controls an image generation machine, said means for outputting information communicates from said game control to said image generation machine.

61 70. A game control according to claim 69 wherein said image generation machine is a game console at least in part for controlling imagery displayed by a television.

62 71. A game control according to claim 70 wherein a second analog sensor is positioned within said right-hand area of said housing, said second analog sensor actuated by variable depression of a second single individual button.

63 72. A game control according to claim 71 wherein a third analog sensor is positioned within said right-hand area of said housing, said third analog sensor actuated by variable depression of a third single individual button.

64 73. A game control according to claim 72 wherein said conductive material is pressure-sensitive variable-conductance material, and a fourth analog sensor is positioned within said right-hand area of said housing, said fourth analog sensor actuated by variable depression of a fourth single individual button.

65 74. A game control according to claim 73 wherein a fifth analog sensor is positioned within said right-hand area of said housing, said fifth analog sensor actuated by variable depression of a fifth single individual button.

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